USGS
science for a changing world

125 years of science for America
1879–2004

Mineral Industry Surveys

For information, contact:
John F. Papp, Chromium Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4963, Fax: (703) 648-7757
E-mail: jpapp@usgs.gov

Joseph M. Krisanda (Data)
Telephone: (703) 649-7987
Fax: (703) 648-7975
E-mail: jkrisand@usgs.gov

Internet: http://minerals.usgs.gov/minerals

CHROMIUM IN FEBRUARY 2004

On the basis of gross weight, consumption of chromium ferroalloys and metal in February 2004 decreased slightly compared with consumption in January 2004, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. government stockpile inventory of chromium materials in February 2004, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of February 2004, U.S. foreign trade data for selected chromium-containing materials in January 2004, and chromite ore prices.

Update

The Defense National Stockpile Center (DNSC) sold 11,340 metric tons (t) of ferrochromium in March, of which 9,072 t were high-carbon ferrochromium and 2,268 t were low-carbon ferrochromium. The ferrochromium was valued at $12.5 million, or $1,102 per ton (Defense National Stockpile Center, 2004b). DNSC announced the addition of 16,493 t of low-carbon ferrochromium to the material available for sale in Fiscal Year 2004, that ends in September 2004. (Defense National Stockpile Center, 2004c). DNSC announced that it would make available for sale monthly up to 2,722 t of low-carbon ferrochromium and up to 9,072 t of high-carbon ferrochromium in Fiscal Year 2004 (Defense National Stockpile Center, 2004a).

References Cited

Defense National Stockpile Center, 2004a, Stockpile announces ferrochromium: Defense National Stockpile Center, News Release DNSC-04-2443, March 15, 1 p.

Defense National Stockpile Center, 2004b, Stockpile announces ferrochromium sales for March 2004: Defense National Stockpile Center, News Release DNSC-04-2450, April 5, 1 p.

Denfense National Stockpile Center, 2004c, Stockpile issues ferrochromium amendment: Defense National Stockpile Center, News Release DNSC-04-2442, March 12, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2003			2004		
	December	Fourth quarter	January-December	January	February	January-February[2]
Production:						
Stainless steel production[3]	208,000	580,000 [4]	2,210,000 [4]	177,000	184,000	361,000 [4]
Components of U.S. supply:						
Stainless steel scrap receipts	63,300	195,000	757,000	65,400	63,400	129,000
Stainless steel scrap consumption	89,700	271,000	1,070,000	93,100	87,100	180,000
Imports for consumption:						
Chromite ore	13,500	24,300	173,000	25,400	NA	25,400 [5]
Ferrochromium:						
More than 4% carbon	19,100	82,600	366,000	19,400	NA	19,400 [5]
More than 0.5%, but not more than 3% carbon	88	606	5,340	22	NA	22 [5]
Not more than 0.5% carbon	2,670	3,170	19,500	1,040	NA	1,040 [5]
Ferrochromium silicon	5,380	8,890	38,700	304	NA	304 [5]
Total ferroalloy imports	27,300	95,200	429,000	20,800	NA	20,800 [5]
Chromium metal[6]	785	1,760	8,570	525	NA	525 [5]
Stainless steel	53,200	154,000	639,000	46,000	NA	46,000 [5]
Stainless steel scrap	10,900	32,300	89,200	12,400	NA	12,400 [5]
Distribution of U.S. supply:						
Industry consumer, chromium ferroalloys and metal	34,200 [r]	96,200 [r]	369,000	33,400 [r]	33,300	66,700
Exports:						
Chromite ore	54,600	56,300	87,400	223	NA	223 [5]
Chromium ferroalloys:						
High-carbon ferrochromium	360	874	3,180	483	NA	483 [5]
Low-carbon ferrochromium	55	206	1,230	68	NA	68 [5]
Ferrochromium silicon	87	278	481	32	NA	32 [5]
Total ferroalloy exports	502	1,360	4,890	583	NA	583 [5]
Chromium metal	65	289	941	76	NA	76 [5]
Stainless steel	26,200	82,900	327,000	24,500	NA	24,500 [5]
Stainless steel scrap	42,500	107,000	505,000	31,600	NA	31,600 [5]
Stocks at end of period:						
Industry consumer, chromium ferroalloys and metal	15,200	XX	XX	14,300	14,000	XX
Government stockpile:						
Chromite ore	154,000	XX	XX	82,600	82,100	XX
Chromium ferroalloys	683,000	XX	XX	677,000	665,000	XX
Chromium metal	6,660	XX	XX	6,660	6,660	XX

[r]Revised. NA Not available. XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]Includes revised data that is not broken out by specific month.

[5]Includes January data; February data not available.

[6]Includes waste and scrap and other.

TABLE 2

U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS IN 2004[1]

(Metric tons, gross weight unless otherwise noted)

	January	February	January-February
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	291	304	595
High-strength low-alloy steel	546	581	1,130
Stainless and heat-resisting steel	29,400	28,900	58,300
Full alloy steel	1,060 r	1,450	2,520
Electrical steel	W	W	W
Tool steel	469	492	961
Unspecified Steel	W	W	W
Cast irons	W	W	W
Superalloys	641 r	621	1,260
Other alloys[2]	88	85	173
Total	33,400 r	33,300	66,700
Total, chromium content	19,400 r	19,700	39,100
Consumption by material:			
Low-carbon ferrochromium	1,820 r	2,080	3,900
High-carbon ferrochromium	27,800 r	28,000	55,900
Ferrochromium silicon	3,200	2,650	5,840
Chromium metal	327 r	341	669
Chromite ore	W	W	W
Chromium-aluminum alloy	33	42	74
Other chromium materials	W	W	W
Total	33,400 r	33,300	66,700
Total, chromium content	19,400 r	19,700	39,100
Consumer stocks:			
Low-carbon ferrochromium	1,630	1,630	XX
High-carbon ferrochromium	11,200	11,000	XX
Ferrochromium silicon	1,240	1,030	XX
Chromium metal	168 r	249	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	35 r	26	XX
Other chromium materials	W	W	XX
Total	14,300	14,000	XX
Total, chromium content	8,420 r	8,380	XX

rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromite ore		Chromium ferroalloys		Chromium metal
	Chemical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2003:					
February	78,300	126,000	521,000	229,000	7,220
March	78,300	98,000	517,000	228,000	7,210
April	78,300	98,000	505,000	228,000	7,210
May	78,300	98,000	501,000	227,000	7,160
June	71,500	83,700	497,000	226,000	7,160
July	64,700	83,700	492,000	225,000	7,150
August	71,500 [3]	82,100	484,000	220,000	7,150
September	70,900	82,600 [3]	482,000	218,000	7,100
October	71,500 [3]	82,600	477,000	218,000	7,120 [3]
November	71,500	82,600	472,000	217,000	7,120
December	71,500	82,600	466,000	217,000	6,660
2004:					
January	--	82,600	462,000	215,000	6,660
February	--	82,100	453,000	212,000	6,660

-- Zero.

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

[3]The increase resulted from the reclassification of physical inventory from committed to uncommitted. It did not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2003:							
January	747	$280	483	290	$472	73	$508
February	442	159	196	111	230	47	499
March	596	166	352	217	445	89	589
April	1,900	209	390	230	439	64	877
May	444	124	317	190	276	72	912
June	1,030	204	756	443	653	46	579
July	985	202	273	150	252	95	1,030
August	22,900	949	387	232	455	119	1,320
September	2,040	626	378	211	479	47	1,160
October	1,030	214	393	208	485	72	1,350
November	634	194	462	262	502	152	2,120
December	54,600	4,090	502	285	548	65	958
January-December	87,400	7,410	4,890	2,830	5,240	941	11,900
2004:							
January	223	74	583	344	767	76	1,520

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2003			
	November	December	January-December[2]	2004 January
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	--	--	77	--
Chromic oxide content	--	--	24	--
More than 40% but less than 46% chromic oxide:				
Gross weight	7,100	27	7,940	113
Chromic oxide content	2,980	12	3,370	50
46% or more chromic oxide:				
Gross weight	3,240	13,500	165,000	25,300
Chromic oxide content	2,120	6,240	77,400	11,700
Total, all grades:				
Gross weight	10,300	13,500	173,000	25,400
Chromic oxide content	5,110	6,250	80,800	11,700
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5%:				
Gross weight	245	2,670	19,500	1,040
Chromium content	173	1,790	13,300	610
More than 0.5% but not more than 3%:				
Gross weight	111	88	5,340	22
Chromium content	77	61	3,420	15
Total, low-carbon:				
Gross weight	356	2,760	24,900	1,060
Chromium content	250	1,850	16,800	625
High-carbon:[4]				
Gross weight	14,600	19,100	366,000	19,400
Chromium content	7,240	11,900	210,000	9,440
Total, all grades:				
Gross weight	15,000	21,900	391,000	20,500
Chromium content	7,490	13,800	227,000	10,100
Chromium metal:				
Unwrought powders	101	128	1,810	121
Waste and scrap	3	10	284	12
Other than waste and scrap amd unwrought powders	369	647	6,480	392
Total, all grades	474	785	8,570	525

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN 2004,
BY GRADE AND BY COUNTRY[1]

Grade and country	January		
	Gross weight (metric tons)	Cr_2O_3 (metric tons)	Value[2] (thousands)
More than 40% but less than 46% chromic oxide,			
South Africa	113	50	$17
46% or more chromic oxide:			
South Africa	275	133	40
Switzerland	25,000	11,600	809
Total	25,300	11,700	849
All grades:			
South Africa	388	183	57
Switzerland	25,000	11,600	809
Total	25,400	11,700	866

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2004,
BY GRADE AND BY COUNTRY[1]

Grade and country	January		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[2] (thousands)
High-carbon ferrochromium:[3]			
Kazakhstan	124	86	$132
Russia	15	10	10
South Africa	19,300	9,350	8,230
Total	19,400	9,440	8,370
Low-carbon ferrochromium:[4]			
More than 0.5% but not more than 3% carbon, Russia	22	15	18
Not more than 0.5% carbon:			
Germany	21	15	43
Japan	160	111	339
South Africa	839	471	541
Turkey	20	13	39
Total	1,040	610	961
All grades:			
Germany	21	15	43
Japan	160	111	339
Kazakhstan	124	86	132
Russia	36	25	27
South Africa	20,100	9,820	8,770
Turkey	20	13	39
Total	20,500	10,100	9,350

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.
[3]Ferrochromium containing more than 4% carbon.
[4]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2004,
BY GRADE AND BY COUNTRY[1]

Grade and country	January	
	Gross weight (metric tons)	Value[2] (thousands)
Unwrought powders:		
Canada	1	$8
China	20	69
Germany	(3)	14
Japan	4	173
Russia	80	216
Taiwan	15	21
United Kingdom	1	69
Total	121	568
Waste and scrap:		
Japan	9	26
Sweden	2	6
Total	12	31
Other than waste and scrap and unwrought powders:		
China	70	236
France	109	855
Netherlands	(3)	4
Russia	159	577
Switzerland	(3)	6
United Kingdom	54	358
Total	392	2,040
All grades:		
Canada	1	8
China	90	305
France	109	855
Germany	(3)	14
Japan	13	199
Netherlands	(3)	4
Russia	238	792
Sweden	2	6
Switzerland	(3)	6
Taiwan	15	21
United Kingdom	55	426
Total	525	2,640

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[3]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 9
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2004[1]

Stainless steel product	January	
	Gross weight (metric tons)	Value[2] (thousands)
Exports:		
Ingot	575	$3,110
Flat-rolled (width > 600 mm)	15,100	30,500
Flat-rolled (width < 600 mm)	7,620	22,100
Bars and rods in irregular coils	269	908
Other bars and rods	1,500	8,160
Wire	720	4,060
Tubes, pipes, hollow profiles	2,660	12,200
Total	28,500	81,000
Stainless steel scrap	31,600	39,900
Grand total	60,100	121,000
Imports:		
Ingot	8,000	14,600
Flat-rolled (width > 600 mm)	20,500	38,300
Flat-rolled (width < 600 mm)	3,050	9,010
Bars and rods in irregular coils	1,750	3,320
Other bars and rods	3,880	10,400
Wire	2,760	8,590
Tubes, pipes, hollow profiles	6,110	23,400
Total	46,000	108,000
Stainless steel scrap	12,400	16,300
Grand total	58,400	124,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 10
CHROMITE ORE PRICES

(Dollars per metric ton, gross weight unless otherwise noted)

Week ending	Turkey[1]		South Africa[2]				Philippines[3]
	1	2	1	2	3	4	
2003:							
01/03	70	80	35 - 40	45 - 55	100 - 120	40 - 50	125 - 145
01/10	70	80					
01/17	70	80					
01/24	70	80					
01/31	70	80					
02/07	70	80	35 - 40	45 - 55	100 - 120	40 - 50	125 - 145
02/14	70	80					
02/21	70	80					
02/28	75	85					
03/07	75	85	40 - 50	50 - 70	100 - 120	40 - 50	125 - 145
03/14	75	85					
03/21	75	85					
03/28	75	85					
04/04	75	85	40 - 50	50 - 70	100 - 120	40 - 50 [r]	125 - 145
04/11	75	85					
04/18	75	85					
04/25	75	85					

See footnotes at end of table.

TABLE 10--Continued
CHROMITE ORE PRICES

(Dollars per metric ton, gross weight unless otherwise noted)

Week ending	Turkey[1]		South Africa[2]				Philippines[3]
	1	2	1	2	3	4	
2003:							
05/02	75	85	40 - 50	50 - 70	100 - 120	40 - 50	125 - 145
05/09	75	85					
05/16	75	85					
05/23	75	85					
05/30	75	85					
06/06	75	85	40 - 50	50 - 70	100 - 120	40 - 50	125 - 145
06/13	75	85					
06/20	75	85					
06/27	75	85					
07/04	75	85	40 - 50	50 - 70	100 - 120	40 - 50	125 - 145
07/11	75	85					
07/18	75	85					
07/25	75	85					
08/01	75	85	40 - 50	50 - 70	100 - 120	40 - 50	125 - 145
08/08	83	93					
08/15	83	93					
08/22	83	93					
08/29	85	95					
09/05	85	95	40 - 50	50 - 70	100 - 120	40 - 50	125 - 145
09/12	85	95					
09/19	85	95					
09/26	90	100					
10/03	90	100	40 - 50	50 - 70	100 - 120	40 - 50	125 - 145
10/10	90	100					
10/17	90	100					
10/24	90	100					
10/31	90	105					
11/07	95	110	40 - 50	50 - 70	100 - 120	40 - 50	125 - 145
11/14	95	110					
11/21	95	110					
11/28	NA	NA					
12/05	100	120	50 - 65	80 - 90	100 - 120	50 - 60	125 - 145
12/12	100	120					
12/19	120	140					
12/26	NA	NA					
2004:							
01/02	NA	NA	50 - 60	80 - 90	100 - 120	50 - 60	125 - 145
01/09	125	150					
01/16	125	150					
01/23	135	155					
01/30	135	155					
02/06	135	155	50 - 65	80 - 90	100 - 120	50 - 60	125 - 145
02/13	135	155					
02/20	135	155					
02/27	135	155					
03/05	135	155	60 - 80	80 - 100	100 - 120	50 - 60	125 - 145
03/12	135	155					
03/19	135	155					
03/26	135	155					

NA Not available.

[1]Turkish 1 (T1) is called 38% - 40% Cr_2O_3 by Ryan's Notes (RN); T2 is called 44% Cr_2O_3 by RN.

[2]South African 1 (SA1) is called chemical grade, 46% Cr_2O_3, wet bulk, free-on-board (f.o.b.) by Industrial Minerals (IM); SA2 is called foundry grade, 46% Cr_2O_3, wet bulk, f.o.b. by IM; SA3 is called refractory grade, 46% Cr_2O_3, wet bulk, f.o.b. by IM; SA4 is called metallurgical grade, friable lumpy, 40% Cr_2O_3 by IM.

[3]Philippines is called refractory grade, concentrates, f.o.b. by IM.